



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,558	07/10/2003	Jeffrey A. Sell	GP-302454	2808
7590 07/22/2004				
CHRISTOPHER DEVRIES General Motors Corporation Legal Staff, Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			EXAMINER FASTOVSKY, LEONID M	
			ART UNIT 3742	PAPER NUMBER

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,558

Applicant(s)

SELL ET AL.

Examiner

Leonid M Fastovsky

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 8 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Takami et al (6,084,418).

Takami teaches a method for measuring oxygen levels in exhaust gas of a motor vehicle 10 comprising an oxygen sensor 30 (Fig. 2), a heater rod 33 coupled to the oxygen sensor, an outer electrode 36 surrounding the heater rod, a shell 12,31 surrounding the outer electrode, providing a first electrode 37 coupled to the outer electrode 36 and a second electrode from the heater control circuit 25 is coupled to the shell 12, 31, and the first electrode configured to facilitate measurement of capacitance C_f and C_i between the outer electrode and the shell (Fig. 5).

As for claim 8, Takami teaches a microprocessor 20 connected to the oxygen sensor 30 and determines the heater rod temperature settings.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 3742

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5, 9-13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takami.

Takami teaches substantially the claimed invention including power levels (col. 8, lines 56-67, col. 9, lines 1-9) and temperature range (col. 7, lines 55-65), but does not cite specifically first level of power, second level of power and temperature settings. It would have been obvious to one having ordinary skill in the art to use Takami's invention to include power levels (col. 7, lines 55-65) and to modify it to include temperature settings in response to measuring capacitances because Takami teaches the structural similarity to the disclosed invention, has reasonable expectations of claimed characteristic and inherently can perform these functions (See *In re Schreiber*, 44 USPQ2d 1429 (Fed. Cir. 1997, *In re Fitzgerald*, 205 USPQ 594, 596 (CCPA 1980)).

5. Claims 6-7 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takami in view of Tomisawa (2003/0010088).

Takami teaches substantially the claimed invention including output voltage at specific time (col. 8, lines 56-67, col. 9, lines 1-9), but does not teach an elapsed time.

Tomisawa teaches a method and diagnosis for an oxygen sensor 19 and timer T_m with an elapsed time in step 25 (page 5, [77]). It would have been obvious to one having ordinary skill in the art to modify Takami's invention to use an elapsed time in order to make a decision whether the value of the timer T_M has reached a predetermined value as taught by Tomisawa (page 5, [77]), and also because Takami inherently can perform this function as discussed above.

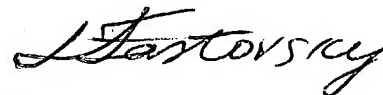
Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 20030052016 (method for controlling the temperature of an oxygen sensor), 5562815 (method for controlling the oxygen concentration), 4504732 (temperature controller for a motor vehicle), 5609825 (oxygen sensor).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 703-306-5482. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leonid M Fastovsky
Examiner
Art Unit 3742